

LAMIA

Intelligent Multi-Zone De-Esser

USER MANUAL

AliasingLabs

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LAMIA is an intelligent multi-zone de-esser for controlling sibilance, harshness, and narrow high-frequency resonances. It combines a live spectral display with up to three independently configured processing zones, three processing modes, automatic setup, and selected-zone Delta monitoring.

1. Introduction

Conventional de-essers often monitor one broad band and apply the same response to every event. LAMIA divides the 1–20 kHz working range into as many as three editable Zones. Each Zone can target a different type of problem—for example, lower consonant energy, sharp “S” sounds, and an isolated upper-frequency whistle—while retaining its own detection and reduction settings.

LAMIA can be configured manually or by running SCAN over a representative passage. The analyzer remains independent of the current Zone settings, so it can reveal high-frequency activity before any reduction has been configured.

2. Quick Start

1. Insert LAMIA on a vocal, dialogue, instrument, or bus track. The plug-in supports mono and stereo instances.
2. Play the loudest or most problematic section of the track.
3. Choose a processing Mode. **Natural** is the recommended starting point for most de-essing work.
4. Either press **SCAN** and let the passage play until the scan ends automatically, or place a Zone manually by double-clicking the relevant area of the analyzer.
5. Select a Zone and raise **SENSITIVITY** until the intended events are detected consistently.
6. Raise **AMOUNT** to set the strength of the reduction.
7. Use **RANGE** to limit the maximum attenuation.
8. Adjust **FOCUS** and **WIDTH** so the Zone covers the unwanted energy without including more of the spectrum than necessary.
9. Set **RECOVERY** for the required speed and smoothness, then use **AIR** if the upper edge needs more protection.
10. Enable **DELTA** briefly to hear what the selected Zone removes. Disable DELTA before making the final musical judgment.
11. Compare the result with **BYPASS**, preferably at a matched perceived level.

LAMIA opens with Zone 1 already present, but its processing controls default to zero. It therefore performs no reduction until AMOUNT and RANGE are raised.

3. Processing Modes

Mode is a global setting: the selected Mode applies to every active Zone. Zone positions and individual control settings remain intact when the Mode is changed.

Natural

Natural uses an adaptive bell-shaped reduction. It follows the dominant event inside each Zone and adjusts the shape of the cut to the detected spectral spread. This tends to preserve the surrounding tone and is usually the most transparent choice for vocals, dialogue, and general-purpose de-essing.

Use Natural when:

- the problem changes slightly in frequency from one syllable to the next;
- preserving vocal tone is more important than applying broad, firm control;
- you want the safest starting point for a new source.

Split

Split separates the target band from the lower and protected upper parts of the signal. It applies dynamic gain across the targeted band and produces broader, firmer control than Natural.

Use Split when:

- the harshness occupies a broad and repeatable band;
- strong sibilance needs more uniform attenuation;
- Natural sounds too selective or allows too much of the event through.

Surgical

Surgical looks for concentrated spectral peaks inside each Zone and distributes the available reduction across as many as three detected peaks. It is designed for precise control of whistles, ringing consonants, and narrow resonances rather than broad tonal shaping.

Use Surgical when:

- one or more narrow peaks are clearly responsible for the problem;
- a broad reduction would remove too much useful brightness;
- the troublesome frequency is concentrated and repeatable.

Surgical is not automatically the most transparent mode. For wide, natural sibilance, Natural or Split may give a more coherent result.

In short: **Natural** is transparent and adaptive, **Split** is strong and broad, and **Surgical** is precise and selective.

4. Understanding Zones

A Zone is both a detector region and a processing region. Its horizontal boundaries define the frequency area in which LAMIA searches for relevant events and applies the selected processing Mode.

LAMIA supports up to three active Zones. Every Zone stores its own:

- SENSITIVITY;

- AMOUNT;
- FOCUS;
- WIDTH;
- RANGE;
- RECOVERY;
- AIR.

The seven main controls always show and edit the **currently selected Zone**. Selecting another Zone recalls that Zone's values. Mode, SCAN, DELTA, BYPASS, and GUI Size are not per-Zone settings.

Zones can overlap. Overlapping Zones retain their separate detection and reduction settings, while LAMIA coordinates their combined contribution to avoid uncontrolled stacking. Use overlap only when the source genuinely contains distinct problems in the same area.

5. Creating a Zone

To create a Zone manually, double-click an empty part of the analyzer at the required frequency. LAMIA creates a Zone with a default width, selects it, and places its Focus at the clicked position. Near 1 kHz or 20 kHz, the Zone is automatically kept inside the available working range.

A Zone is not created when:

- all three Zone slots are already active;
- the double-click is over an existing Zone;
- BYPASS is enabled.

Because Zone 1 is active when the plug-in first opens, two additional Zones can be created immediately.

6. Selecting and Moving a Zone

Click anywhere inside a Zone to select it. The selected Zone is visually emphasized, and the seven main controls update to show its settings.

Drag the body of a Zone horizontally to move it. The entire Zone and its Focus move together, preserving their relative arrangement wherever possible. Movement is constrained so that the Zone remains within 1–20 kHz.

Moving a Zone changes the detector and processing area; it does not change the Zone's SENSITIVITY, AMOUNT, RANGE, RECOVERY, or AIR values.

7. Resizing a Zone

Drag the left or right boundary of a Zone to change its WIDTH. The analyzer updates the actual frequency boundaries as the Zone is resized.

A wider Zone can follow larger variations in sibilant frequency, but it also admits more unrelated energy into the detector. A narrow Zone is more selective, but may miss events that move outside its boundaries.

The WIDTH readout reports the Zone's actual lower and upper frequencies. This is more useful than a generic percentage because equal visual distances on the analyzer represent logarithmic, not linear, frequency intervals.

8. Deleting a Zone

Click the small **X** in a Zone's tab to delete that Zone. Deleting a Zone does not change the settings or positions of the remaining Zones. LAMIA selects the nearest remaining Zone when possible.

Deleting the final active Zone leaves no active processing area. Double-click the analyzer to create a new Zone.

9. SENSITIVITY

SENSITIVITY determines how readily the selected Zone identifies high-frequency events as targets.

- Lower values require clearer or more prominent events.
- Higher values allow weaker events to trigger processing.

Increase SENSITIVITY until the intended consonants or resonances are detected reliably, then stop before ordinary brightness begins to trigger unnecessarily. Detection alone does not guarantee attenuation: AMOUNT and RANGE must also be above zero.

You can also adjust SENSITIVITY directly in the analyzer by dragging the Zone's horizontal sensitivity line vertically. Moving the line upward lowers the value; moving it downward raises the value.

10. AMOUNT

AMOUNT controls how strongly the selected Zone responds to a detected event. It scales the reduction produced by the detector and the selected Mode.

- At 0%, the Zone applies no reduction.
- Higher values produce progressively stronger event-dependent attenuation.

AMOUNT is not a fixed decibel cut. The actual reduction also depends on event probability, RANGE, the selected Mode, Zone geometry, and the interaction with other active Zones.

11. FOCUS

FOCUS defines the preferred point inside the selected Zone. It guides where LAMIA concentrates attention while still allowing the processing to follow detected energy within the Zone.

Turning FOCUS translates the whole Zone while retaining the Focus position within it. The available Focus range is therefore limited dynamically by the current WIDTH and by the 1–20 kHz working boundaries.

Use FOCUS to aim a Zone at the perceptual center of the problem. For moving vocal sibilance, it does not need to match every individual spectral peak; the detector can adapt within the Zone.

12. WIDTH

WIDTH controls the selected Zone's frequency span. The readout shows the resulting lower and upper frequencies in Hz or kHz.

- Narrow settings isolate a stable resonance or whistle.
- Medium settings suit most vocal sibilance.
- Wide settings accommodate broad harshness or events that move substantially in frequency.

WIDTH and FOCUS are linked geometrically. Changing WIDTH updates the Zone boundaries around its current Focus relationship, while changing FOCUS moves the Zone without changing its width. Both controls are constrained so the Zone remains inside 1–20 kHz.

13. RANGE

RANGE sets the maximum reduction ceiling for the selected Zone. The control runs from no permitted attenuation to a maximum ceiling of approximately 18 dB.

- At 0%, the Zone applies no reduction, regardless of AMOUNT or SENSITIVITY.
- Lower values restrain the maximum cut and are useful for transparent control.
- Higher values give AMOUNT and the detector more room to suppress severe events.

RANGE is a safety boundary, not a command to apply the full available attenuation at all times. Actual gain reduction remains event-dependent.

14. RECOVERY

RECOVERY controls how quickly the selected Zone returns from reduction.

- Lower values recover faster and can retain more detail between closely spaced events.
- Higher values recover more slowly and can sound smoother on long or dense sibilance.

LAMIA adapts recovery behavior to the event duration, probability, and current amount of reduction. RECOVERY therefore does not represent a single fixed release time. Very low settings can sound restless on sustained material; very high settings can hold down brightness after the event has passed.

15. AIR

AIR protects the upper portion of the selected Zone during detected events. It changes the way reduction is distributed near the top of the target region.

- Lower values allow more uniform control across the Zone.
- Higher values preserve more upper-frequency openness while the event is being reduced.

AIR is not a static high-shelf boost and does not add treble. It has no independent effect outside active de-essing. Its exact action follows the selected Mode: it influences the adaptive shape in Natural, the protected upper path in Split, and the weighting of high peaks in Surgical.

16. How the Main Controls Work Together

The controls are intentionally interdependent:

1. **FOCUS and WIDTH** decide where the Zone listens and processes.
2. **SENSITIVITY** decides which events qualify.
3. **AMOUNT** determines the strength of the response.
4. **RANGE** limits the maximum attenuation that response may reach.
5. **RECOVERY** shapes how the attenuation returns to normal.
6. **AIR** protects the upper edge during the event.

If there is no audible reduction, first confirm that the Zone is active and correctly placed, then check that both AMOUNT and RANGE are above zero. Raising SENSITIVITY alone cannot create reduction when either of those controls is at zero.

High AMOUNT with low RANGE produces an assertive response that remains restrained by a low reduction ceiling. RECOVERY changes how processing returns after an event; it does not change detection sensitivity. AIR does not create de-essing by itself—it modifies the tonal distribution of reduction that is already taking place.

For predictable setup, adjust one function group at a time: geometry, detection, depth, then timing and tonal protection.

17. SCAN

SCAN performs a one-shot analysis of the incoming audio and builds an editable Zone configuration. It can create from zero to three Zones and sets each created Zone's FOCUS, WIDTH, SENSITIVITY, AMOUNT, RANGE, RECOVERY, and AIR.

To use SCAN:

1. Start playback on a representative passage containing several examples of the problem.
2. Press **SCAN**.
3. Keep the audio running while LAMIA collects a baseline and recurring events.
4. Wait until the SCAN control switches off automatically.
5. Audition and refine the resulting Zones manually.

The scan needs meaningful program material, not silence or a single isolated transient. It normally runs for several seconds and stops automatically no later than approximately 10 seconds. A strong, repeatable passage may complete sooner. Pressing SCAN again before completion cancels the current analysis.

SCAN replaces the active Zone layout only when it finds a usable result. If no reliable Zones are found, the existing setup remains unchanged. The generated settings are deliberately a starting point, not a substitute for listening in context.

18. DELTA Monitoring

DELTA lets you hear the material removed by the **currently selected Zone**. It is useful for checking whether the Zone is catching the intended sibilance or resonance without removing important vocal tone, cymbal detail, or ambience.

To use DELTA:

1. Select the Zone you want to inspect.
2. Enable **DELTA**.
3. Listen for the unwanted event in the isolated removed signal.
4. Adjust the Zone controls if too much useful content is present.
5. Disable DELTA and judge the processed signal in the full mix.

Selecting another Zone changes the DELTA target. DELTA accounts for that Zone's contribution in the context of any overlapping Zones, so it represents the selected Zone's effective removal rather than a generic filter solo. If DELTA contains too much ordinary vocal tone, lower SENSITIVITY, narrow or reposition the Zone, or reduce AMOUNT or RANGE.

DELTA is a diagnostic monitor, not a normal output mode. Do not use the apparent loudness of the Delta signal as the sole measure of processing quality.

19. Reading the Analyzer

The analyzer covers 1–20 kHz on a logarithmic horizontal scale. Reference labels are shown at 1, 2, 5, 10, and 20 kHz.

The energy field uses color to indicate current high-frequency activity:

- pale violet represents lower or ordinary energy;
- orange indicates stronger potentially problematic activity;
- red indicates the most severe activity.

Color intensity describes the incoming spectral event, not a fixed amount of gain reduction. Zone overlays show the current detector and processing boundaries, while the selected Zone is visually emphasized.

Use the display to locate patterns, then confirm every decision by ear. Bright cymbals, breath, or consonants can look intense without necessarily requiring attenuation.

20. Why the Analyzer Can React Before Processing

The analyzer is intentionally independent of Zone settings. It can show orange or red activity even when:

- AMOUNT is 0%;
- RANGE is 0%;
- SENSITIVITY is low;
- no Zone currently covers the event.

This does not indicate that LAMIA is already reducing the signal. It means the incoming audio contains strong high-frequency energy. Processing begins only when an active Zone is correctly placed and its detection and reduction controls permit attenuation.

This separation is useful for setup: the display first reveals where events occur, and the Zones then determine what LAMIA should do about them.

21. Practical Examples

Lead vocal with moving sibilance

Start in Natural mode. Use one medium-width Zone around the visible “S” activity, raise SENSITIVITY until repeated consonants trigger, then add moderate AMOUNT with a conservative RANGE. Use a medium RECOVERY and raise AIR only if the vocal loses openness. If the sibilance appears in two clearly separated frequency areas, add a second Zone instead of making the first Zone excessively wide.

Aggressive broad harshness

Choose Split mode and use a wider Zone over the repeatable harsh band. Keep RANGE controlled at first, then raise AMOUNT until the events sit in the mix. A slightly higher RECOVERY may make dense passages more stable. Use AIR to retain the upper edge if the result becomes too closed.

Narrow whistle or ringing consonant

Choose Surgical mode. Create a narrow Zone around the recurring peak and keep WIDTH tight enough to exclude nearby useful brilliance. Use DELTA to confirm that the Zone isolates the whistle rather than the whole consonant.

Two-stage vocal control

Use one lower Zone for broad consonant energy and a second upper Zone for a sharper “S” component. Give each Zone its own SENSITIVITY and RANGE. Check each Zone separately with DELTA, then listen to both together. Avoid identical wide overlapping Zones unless the source clearly requires them.

Automatic starting point

Run SCAN over several representative phrases, then audition each generated Zone. Delete any Zone that addresses an irrelevant event, narrow overly broad areas, and use DELTA to refine the remaining Zones. Treat the automatic result as a fast first pass.

22. BYPASS

BYPASS disables de-essing while retaining the complete configuration. The analyzer and Zone editing interactions are visually disabled while BYPASS is active.

LAMIA keeps its internal lookahead delay in the bypassed path so that the comparison remains aligned with the host's latency compensation. Use BYPASS to judge tonal and dynamic changes, not to test latency removal.

When comparing processed and bypassed signals, remember that reduced sibilance can make the processed version appear quieter or darker. Match perceived level and listen in the full mix before deciding.

23. Settings

Click the **AliasingLabs** logo at the top of the interface to open Settings. The Settings page displays:

- the installed LAMIA version;
- the design credit;
- the GUI Size selector.

Click the logo again or press **Escape** to return to the main interface.

24. GUI Size

The interface can be displayed at:

- 50%;
- 75%;
- 100%;
- 125%;
- 150%;
- 175%;
- 200%.

The selected size is stored as an application preference and is reused the next time LAMIA is opened. Changing GUI Size does not affect audio processing.

25. Recommended Workflow

Automatic Setup

1. Insert LAMIA and choose Natural mode unless the source already suggests a different topology.
2. Loop or play a representative section containing several target events.
3. Run SCAN without stopping playback.
4. Select every generated Zone in turn and verify it with DELTA.
5. Correct FOCUS and WIDTH before changing the depth controls.
6. Refine SENSITIVITY, AMOUNT, and RANGE.
7. Adjust RECOVERY and AIR for musical integration.
8. Compare with BYPASS in the mix.

Automatic setup works best when the scan passage includes both ordinary high-frequency content and the unwanted events. This gives LAMIA a useful baseline and repeated evidence.

Manual Setup

1. Play the problem passage and observe where the analyzer repeatedly becomes orange or red.
2. Create or move one Zone to the most important frequency area.
3. Set an appropriate WIDTH: wide enough to contain the moving event, but no wider.
4. Raise RANGE to establish a safe maximum reduction.
5. Raise SENSITIVITY until the intended events trigger consistently.
6. Raise AMOUNT until the reduction is musically sufficient.
7. Use DELTA to check for useful content being removed.
8. Adjust RECOVERY and AIR.
9. Add another Zone only when a separate problem remains.
10. Compare all active Zones together with BYPASS.

This order separates detection problems from depth problems and usually reaches a stable result quickly.

26. Practical Tips

- Prefer the narrowest Zone that still contains the full movement of the target event.
- Use multiple focused Zones for genuinely separate problems instead of one extremely wide Zone.
- Set RANGE conservatively, then increase it only when the strongest events need more control.
- If ordinary brightness triggers processing, lower SENSITIVITY before reducing AMOUNT.
- If the event is detected correctly but remains too strong, increase AMOUNT or RANGE.
- Use AIR only after the basic detection and depth are correct.
- Judge RECOVERY over complete phrases, not a single consonant.
- Use DELTA briefly and return often to the full processed signal.
- If speech begins to sound lispy, reduce SENSITIVITY, AMOUNT, or RANGE, or narrow and reposition the Zone.
- Check the result at normal listening level and in the mix; solo monitoring can encourage over-processing.

27. Troubleshooting

No audible reduction

Confirm that BYPASS is off, an active Zone covers the event, and both AMOUNT and RANGE are above 0%. Then raise SENSITIVITY while the target passage plays. A visible analyzer event alone does not mean the Zone is processing it.

The analyzer is orange or red, but nothing changes

This is normal when the current Zone settings do not permit reduction. The analyzer measures input activity independently. Check Zone placement, SENSITIVITY, AMOUNT, and RANGE.

Too much useful brightness is removed

Narrow the Zone, lower SENSITIVITY, reduce AMOUNT or RANGE, or increase AIR. Use DELTA to identify which Zone is removing the useful content. Natural mode may be more transparent than Split for this source.

Sibilance is still audible

Make sure the complete event remains inside the Zone. Increase WIDTH if the event moves in frequency, then adjust SENSITIVITY. If detection is already reliable, increase AMOUNT or RANGE. Split may provide firmer control for broad events.

The result sounds dull after the event

Reduce RECOVERY so the attenuation releases sooner, reduce RANGE, or raise AIR. Also check for overlapping Zones holding down the same upper-frequency area.

The result sounds nervous or chattery

Increase RECOVERY, reduce SENSITIVITY, or use a slightly wider Zone if a moving event is repeatedly crossing a boundary.

SCAN creates no new Zones

Use a passage with repeated, clearly audible events and keep playback running for the full scan. Avoid silence, fades, or a single isolated consonant. When no reliable result is found, LAMIA preserves the existing Zone setup.

The SCAN result is not ideal

Treat SCAN as a starting point. Select each generated Zone, check it with DELTA, then move, resize, adjust, or delete it as needed. All generated settings remain fully editable.

A new Zone cannot be created

Check that BYPASS is off, that the double-click is outside existing Zones, and that fewer than three Zones are active.

DELTA is silent or nearly silent

Select an active Zone and confirm that it is actually reducing the signal. DELTA follows only the selected Zone; it will be silent when that Zone contributes no removal.

28. Technical Information

- Manufacturer: AliasingLabs.
- Supported channel layouts: mono and stereo, with matching input and output layouts.
- Working frequency range: 1–20 kHz.
- Maximum number of active Zones: 3.
- Processing Modes: Natural, Split, and Surgical.
- Lookahead: 2.5 ms.
- Host latency reporting: enabled; the exact sample count is calculated from the current sample rate.
- Bypass behavior: reduction is disabled while the latency-aligned dry path and configuration are retained.
- Parameter and Zone state: saved with the plug-in instance.
- GUI Size preference: stored and reused across instances.

29. Parameter Reference

Parameter	Scope	Range / Choices	Default	Function
AMOUNT	Selected Zone	0–100%	0%	Scales the strength of event-dependent reduction.
SENSITIVITY	Selected Zone	0–100%	0%	Sets how readily events qualify for processing.
FOCUS	Selected Zone	1–20 kHz working range; dynamically constrained by WIDTH and Zone position	8.9 kHz for the initial Zone	Sets the preferred point and moves the Zone horizontally.

Parameter	Scope	Range / Choices	Default	Function
WIDTH	Selected Zone	Displayed as the actual lower–upper frequency span	Initial Zone: 6.8–11.8 kHz	Sets the detector and processing span.
RANGE	Selected Zone	0–100%, corresponding to a maximum ceiling of approximately 0–18 dB	0%	Limits maximum attenuation.
RECOVERY	Selected Zone	0–100%	0%	Controls faster-to-slower adaptive recovery behavior.
AIR	Selected Zone	0–100%	0%	Protects the upper part of the Zone during reduction.
Mode	Global	Natural / Split / Surgical	Natural	Selects the processing behavior for all Zones.
Natural	Global Mode choice	—	Selected by default	Transparent, adaptive general-purpose processing.
Split	Global Mode choice	—	—	Stronger, broader target-band control.
Surgical	Global Mode choice	—	—	Precise processing of concentrated spectral peaks.
SCAN	Global one-shot action	Off / On	Off	Analyzes a representative passage and generates an editable setup.
DELTA	Selected-Zone monitor	Off / On	Off	Outputs the material removed by the selected Zone.
BYPASS	Global	Off / On	Off	Disables reduction while retaining the latency-aligned path and settings.
Selected Zone	Editing state	Zone 1 / Zone 2 / Zone 3	Zone 1	Chooses which Zone the main controls and DELTA address.
GUI Size	Application preference	50 / 75 / 100 / 125 / 150 / 175 / 200%	100%	Scales the interface only.

30. Terminology

This manual follows the names shown in the LAMIA interface: **SENSITIVITY**, **AMOUNT**, **FOCUS**, **WIDTH**, **RANGE**, **RECOVERY**, **AIR**, **SCAN**, **DELTA**, and **BYPASS**. The three Mode choices are **Natural**, **Split**, and **Surgical**. "Zone" means one independently adjustable detector and processing region.

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